

**Water Utility Advisory Task Force  
(WUTAT):  
Final Report**

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# I: INTRODUCTION

## REPORT STRUCTURE

This report documents the work of the Water Utility Advisory Task Force (WUTAT). It has been organized into six separate sections, including this introduction.

- **Section I** provides the structure, methodology and membership of the WUTAT.
- **Section II** includes the justification for the Taskforce from Council.
- **Section III** presents the Guiding Principles that the WUTAT developed in order to provide a rationale for the currently presented recommendations and for future policy decisions.
- **Section IV** contains the previously submitted, in July 2011, interim report that was necessitated by the need to advise the City Council of the WUTAT's recommendations on rates for the new fiscal year. Appendix A contains the slide presentation to the City Council that summarized the WUTAT's report.
- **Section V** presents the recommendations from the WUTAT.
- **Section VI** contains comments from individual members of the WUTAT that represent certain differences with the general consensus of the WUTAT. While these are few in number it is important that the City Council recognize that there were a few alternative points of view.

## METHODOLOGY

**Orientation:** After receiving the appointment from the City Council, the WUTAT devoted a significant amount of time to being educated by the Department of Public Utilities staff (Staff) about the system, how it operates, how it is financed and particular issues relevant to the charge from the City Council. The WUTAT also received and reviewed reports on generic water utility challenges and considered comparisons of the Raleigh system to other comparable systems. The WUTAT also visited the operating

facilities around the county and received reports from consultants the City utilizes to advise it on financing plans and rates.\*

**Guiding Principles Development:** The members of the WUTAT realized early on in the work to address the City Council's charge that a set of foundation principles was needed to inform the recommendations it would make. These principles are relevant to the recommendations contained within this report. More important, they represent evergreen touchstones that the Staff and the City Council can use to make future decisions about the water utility.

**Interim Report Development:** The WUTAT made an interim report to the City Council in April 2011 due to the timing of the City's budgeting process and the need to consider whether a rate increase was warranted and, if so, how it should be structured. Other topics were discussed in the report including guiding principles related to the rate recommendation, conservation programs, and future capital needs for maintaining the infrastructure.

**Recommendation Development:** The WUTAT members worked in small groups to prepare recommendations. The small groups focused on these broad areas: Governance and Strategic Planning, Financial Planning and Rates, Infrastructure Planning and Management, Operations, Customer Education, Water Conservation and Efficiency and Reuse Water. The entire WUTAT membership then discussed -- and amended in some cases -- the recommendations from the small groups.

**Final Report:** A draft report was prepared and circulated among the WUTAT members for comment. The report was edited to present the broadest possible consensus of the WUTAT members. Where important differences of opinion remained unresolved they were so noted and included within this report.

- Appendix A lists staff and consultants who provided support to the WUTAT.

## WUTAT TASK FORCE MEMBERS

1. **Mary Brice:** *Professional Engineer, Dewberry*
2. **Lyle Gardner:** *President, Spectrum Homes*
3. **Bill Holman:\*** *Director of State Policy, Nicholas Institute for  
Environmental Policy Solutions at Duke University*
4. **The Honorable Bob Matheny:** *Mayor, Town of Zebulon*
5. **Larry McMillan:** *Scientist/Contractor USEPA*
6. **Robert Rubin:** *Professor Emeritus, North Carolina State University*
7. **Mike Ruck:** *President, Rainwater Solutions*
8. **George Rucker:** *Builder, Developer, Property Manager*
9. **Peter Scott:\*** *Retired, Former CFO Progress Energy, Former President Scott,  
Madden & Associates*
10. **Tracy Sides:** *Owner, Landvision Designs, Inc.*
11. **Billy Warden:**

\* Co-chairs of the WUTAT

## II: CHARGE TO THE WUTAT

Listed below are the specific responsibilities assigned to the WUTAT by the Raleigh City Council.

1. The Advisory Taskforce shall consist of eleven (11) members to be appointed by the City Council.
2. The role of the Advisory Taskforce is to provide guidance to the City of Raleigh during the transition from uniform water rates to the tiered water rate system. An excerpt of the June 28, 2010 City Council meeting minutes that established the Taskforce is appended for reference.
3. The Advisory Taskforce will provide recommendations to the City Council regarding:
  - Establishing utility rates sufficient to cover the full cost of operation, maintenance, environmental compliance, conservation education and incentive programs, and infrastructure replacement;
  - Establishing additional conservation education and incentive programs;
  - Establishing a low income customer assistance program.
4. The Advisory Taskforce represents a diversity of community and stakeholder groups who are willing to engage in a candid and thoughtful discussion in executing this task.
5. The Advisory Taskforce will be convened at least eight times between October 2010 and February 2011. However, more meetings may be needed to allow the Advisory Taskforce time to review the information and develop recommendations. Meetings shall be 2 hours each in duration. Key milestones for Advisory Group to meet include (tentative):
  - Orientation, Review Roles and Responsibilities, Select Taskforce Chair, General Background Information (1 meeting)
  - Review Cost of Operation, Maintenance, environmental compliance, conservation and incentive programs, and infrastructure replacement (2 meetings)
  - Review existing water efficiency programs (1 meeting)
  - Review of impacts of different rate structure on customer use patterns (1 meeting)
  - Conservation Education and Incentive Programs (1 meeting)
  - Discuss and Draft recommendations for City Council (2 meetings)
6. The City of Raleigh will provide the Advisory Taskforce with the necessary background information.

7. Advisory Taskforce members will engage in open dialogue, which allows for the voicing of different opinions and recognition that everyone in the room is responsible for the process.
8. Advisory Taskforce members participate as individuals. It is recognized that some members of the Advisory Taskforce represent or work with groups or constituencies and were selected because of their role in these groups. These members should take care in delineating their personal views from organizational interests in Advisory Taskforce deliberations.
9. When speaking with others outside the Advisory Taskforce (such as the media), Advisory Taskforce members should indicate that they are not speaking on behalf of the Advisory Taskforce. They should present only their own views. They should conscientiously refrain from expressing, characterizing or judging the views of others.
10. Each member of the Advisory Taskforce takes responsibility for attending meetings, reading distributed materials, and participating in Advisory Taskforce meetings.
11. The City of Raleigh shall work towards consensus with the Advisory Taskforce in producing the recommendations. On issues where consensus or common ground cannot be found, differences of opinion shall be documented in meeting minutes and, as needed, in the recommendations to City Council.
12. Advisory Taskforce members will be aware of the limited time in the meetings and will therefore express themselves succinctly to allow time for others to share their thoughts and opinions.

After the WUTAT began its work, the City Council requested the WUTAT to consider two additional scope items. They are listed below.

1. Opine on the appropriateness of combining the storm water utility and the water utility.
2. Opine on the continued expansion of the reuse water system.

## COUNCIL MINUTES EXCERPT, JUNE 28, 2010

*"... Mrs. McFarlane distributed a handout describing the proposed committee:*

*I would like to see the creation of a **Water Utility Transition Advisory Committee**, composed of local business and environmental leaders, along with knowledgeable consultants. This committee will have a working budget and is directed to report to both City management and the Public Works Committee. They will work on changing the City's water utility business model to make it more sustainable and fair to customers who conserve. The committee could also investigate higher base rates for commercial, institutional and industrial customers that would provide more stability to revenues. They will also review our impending tiered rates.*

*The Water Conservation Advisory Council has long asked for a detailed study of the potential costs and benefits of water efficiency and conservation options to guide the Council and City management's investments in water resources. This could be overseen by the same committee. Basically, we need someone that knows the facts to advise us on growth, potential water needs, resources (Little River) and what we can realistically expect from conservation and reuse potential.*

*This group can also work with staff with regard to rebate programs, i.e., decreases on fees if a new house in Energy Star rated, etc.*

*I would suggest that this group be formed in the same way that we have approached other task forces. Nominations will be suggested from all Council members, with a recommendation back to Council of a final board from a panel of three City Council members.*

*Mayor Meeker stated he would treat that as a friendly amendment to his motion. Ms. McFarlane suggested the new committee be composed of seven members, and the Mayor agreed ..."*



# **III: GUIDING PRINCIPALS FOR WATER UTILITY MANAGEMENT**

The Guiding Principles discussed below were developed by the Water Utility Transition Advisory Task Force (WUTAT) and unanimously adopted in August 2011. The purpose of these principals is to provide a rationale to support and inform the recommendations the WUTAT would make to the City Council. Each principle essentially defines a parameter or condition the WUTAT believes the City and the Public Utilities Department should strive to meet in providing reliable, affordable and clean water services to the people of Wake County. The Guiding Principles are grouped into seven primary areas. They are: Strategic Planning, Water Infrastructure Planning and Management, Environmental Stewardship, Financial Policy and Planning, Operations Management, Customer Education and Support, and Implementation Policy.

## **STRATEGIC PLANNING**

- Development and Articulation of a Strategic Plan - The Department should maintain a current and comprehensive strategic plan that sets forth a current state assessment of strengths and weaknesses, a position on sustainability, primary objectives, a financial plan and specific initiatives to achieve both financial and operational objectives. The plan should serve as the primary vehicle for communicating with key stakeholders.
- Long Term View – The water business is capital intensive with investment decisions that address multi-decade time horizons. The Department should work with the City Council to assure that the long term projection of water infrastructure resource needs and financial resource requirements are in balance and that such financial requirements are reflected in the annual budgeting process.

## **WATER INFRASTRUCTURE PLANNING AND MANAGEMENT**

- Water Audit – The Department should conduct a comprehensive water audit consistent with AWWA standards.
- Material Condition Knowledge – The Department should have up to date and accessible knowledge of all assets, including specifications, location, capacities, repair/maintenance history, age, general time frame for replacement and other necessary information needed to understand the quality of the overall system and manage the operation of the system.
- Asset Management Program – The Department should provide a long term forecast of infrastructure replacement needs and costs and the costs of such forecast should be incorporated into the full cost of service that is the foundation for determining revenue requirements.
- Planning Criteria for Future Water Resources and Treatment Facilities – The Department should apply conservative management policies to ensure water availability consistent with current and future customer needs through long-term resource supply and demand analysis, promotion of conservation, customer education and diversity of supply.
- New Assets Provided By Others – Policies governing system additions and impact fees provided by developers should require asset quality consistent with Department standards and provide incentives for conservation, water reuse and capital investment efficiency.

## **ENVIRONMENTAL STEWARDSHIP**

- Goal for Conservation – The Department should be at the forefront of conservation goals and practices for water utilities with similar characteristics (i.e. population density, rainfall, water sources, weather, etc).
- Utilization of By-Products – The Public Utilities Department should maximize the cost beneficial uses of by-products such as biosolids, water treatment plant residuals and reclaimed water.
- Standards for Public Health and Water Quality – The Department should meet or exceed the standards and requirements of the federal Safe Drinking Water Act and Clean Water Act and North Carolina regulatory programs that govern water quality.
- Standards for By-Product Quality – The department should ensure that biosolids and residuals programs meet the standards of certification of the National Biosolids Partnership and should ensure

that reclaimed water meets the requirements of the Federal Clean Water Act and North Carolina regulatory programs that govern water quality.

- Partnerships and Collaboration – The Department should work with developers, landscapers and irrigation firms to develop and implement standards that promote water utilization and capital investment efficiency. The Department should pursue partnering with electric and gas utilities on the provision of incentives to encourage water efficiency.

## **FINANCIAL PLANNING AND POLICY**

- Rate Design Philosophy – The City should be fair to those customers who conserve water and should, therefore, continue with its tiered-approach to customer rates (lower rates for lower consumption). The rates should also be structured so that revenues from water sales cover all of the costs of treating and delivering water and that revenues from wastewater should cover all of the costs of collecting and treating sewage. The revenue requirements for the water system should include all costs related to the water system, including operations and maintenance, debt service, reserves established to deal with revenue shortfalls during periods of lower than projected water sales, reserves to build a fund to that can support system replacement and renewal projects and costs related to incentives for conservation, and customer education programs
- Rates Based Upon Meter Size – The Department should charge administrative fees based upon meter size with fees increasing as meter size increases. Administrative costs should include costs that do not vary significantly based on volume of sales such as costs for meter reading, billing and account maintenance, customer education, capital and other reserves, capacity reservation for fire safety, infrastructure maintenance, net cost of incentive programs including revenue lost and environmental compliance.
- Access to Capital – The City should maintain its favorable financial ratings from the ratings agencies in order to provide access to the capital markets at preferential costs. Therefore, the City should ensure that key coverage ratios and other criteria applied by the ratings agencies are satisfied in both actual operational budgets and financial forecasts.
- Creation and Protection of Reserves – The Department should create reserves 1) for water infrastructure replacement, water supply watershed protection and water efficiency, 2) future droughts in order to mitigate revenue reductions due to the imposition of water conservation

measures, and 3) other planning contingency type funds. Any reserve funds established for the water system should be legally protected so that funds may not be applied to any other than the intended purpose of such fund.

- Cost Benefit Analysis of Conservation and Water Efficiency Programs – The Department should have a rigorous methodology for evaluating the overall cost and benefit of any programs designed to influence customer consumption or behavior. This methodology should be applied to all current programs as well as all future programs.

## **OPERATIONS MANAGEMENT**

- Adoption of Best Practices – The Department should invest in maintaining a current knowledge of best practices used in the water utility industry. Such best practices should be documented and the staff should self-assess against these practices.
- Performance Benchmarking – The Department should have a comprehensive set of benchmarks to be used in comparing the operational results of the Department to other comparable utilities and to other locations in North Carolina.
- Safety and Risk Management - The Department should have defined risk management guidelines and should have an internal Risk Management Committee that regularly reviews results related to a full set of business risks and employee and public safety risks.
- Material Condition Maintenance – The Department should establish standards for material condition, should frequently assess material condition relative to these standards and should invest in projects that are needed to maintain the desired material condition.
- Relationship With Storm Water Management – While having different roles, there are clearly significant overlaps in both infrastructure planning and maintenance and there are potential synergies to be gained in combining these two functional organizations. This possibility is currently under review by a consultant retained by the City. The WUTAT will await the conclusion of this study before making any recommendations in this particular area.

## **CUSTOMER EDUCATION AND SUPPORT**

- **Public Education** – The Department should educate the public on the value of water and the importance of reliable, affordable and clean water to the region’s economy and environment with a particular emphasis on the long- term need for infrastructure investments.
- **Technical Assistance** – The Department should provide information, tools and assistance that enable customers to identify and implement solutions that will promote water efficiency and conservation.
- **Financial Assistance to Low Income Customers** – The Department should collaborate with the public, appropriate agencies and other utilities to offer programmatic assistance to low income customers that can assist with lowering consumption and/or providing financial assistance.
- **Financial Assistance To Improve Water Efficiency** – The Department should provide financial assistance to customers who replace inefficient appliances and fixtures with Water Sense and Energy Star certified devices that impact water efficiency with such assistance subject to a comprehensive cost benefit analysis.

## **IMPLEMENTATION POLICY**

- **Pace of Implementation** – The WUTAT recognizes that the scope of many of its recommendations is significant and, in some cases, represents transformational change. Therefore, it is expected the Department will take a long- term approach to achieving the desired end states.
- **Responsibility and Accountability** – The Department should aggressively take responsibility for engendering understanding and support from oversight bodies, community and watershed interests, and regulatory agencies with respect to the needs for infrastructure investment and water efficiency issues. The Raleigh City Council, as the primary oversight body for the Department, should likewise aggressively exercise its responsibility for ensuring that the Department operates at the highest standards of efficiency and effectiveness.

## **IV: INTERIM REPORT APRIL 2011**

Below is the entire text of the memorandum the WUTAT presented to the City Council in order to respond to the Council's request that the WUTAT opine on proposed rate increases.

### **COUNCIL MEMORANDUM:**

**To: The Honorable Charles Meeker and  
Members of the City Council**

**Copy: Russell Allen & John Carman**

**From: Peter Scott & Bill Holman, Co-Chairmen; and  
Members of the Water Utility Transition Advisory Task Force (WUTAT)**

**Re: Interim Report & Recommendation on FY 2011-2012 Water Rates**

**Date: April 7, 2011**

We are writing to provide the Council with an Interim Report and an alternative to the originally proposed nine percent water and sewer rate increase scheduled for fiscal year 2011-2012.

In June 2010 the Council proposed creating a Water Utility Transition Advisory Task Force (WUTAT) to advise it on changing the water utility business model to become more sustainable and directed it to consider:

- Establishing utility rates sufficient to cover the full cost of operation, maintenance, environmental compliance, conservation education and incentive programs, and infrastructure replacement based on industry standards;
- Establishing additional conservation education and incentive programs;
- Establishing a low income customer assistance program.
- Combining the Storm Water program with Public Utilities Department

The Water Utility Transition Advisory Task Force (WUTAT) has been meeting and working to develop principles to guide Council since it was appointed in October 2010. The staff of the Public Utilities

Department has been generous with their time and has done a thorough job in educating us and in addressing our questions. To a person, we have been impressed with the staff's professionalism, the city's investment in its water and wastewater systems, the city's facilities that we have visited, and the complexity and importance of the water enterprise to the city, its merger partners, the economy, and the environment.

We continue to review our charge from the Council and plan to make final recommendations that will help the Council transition its water utility and continue to provide reliable, affordable and clean water services to its citizens and partners in the 21<sup>st</sup> century. However, we understand that the Council's budget development schedule for fiscal year 2011-2012 requires an interim recommendation from the WUTAT, prior to completion of our deliberations and final recommendations.

#### **Rationale for a Nine Percent Increase in Utility Rates:**

In order to maintain its valuable AAA bond rating with S&P and Fitch and Aa1 bond rating with Moody's, the city must meet or exceed certain financial ratio criteria established by these ratings agencies. Based upon recent experience in the ratings process, the city has determined that it must improve a key financial coverage ratio<sup>1</sup> from 1.75 to 2.0 in order to keep AAA and Aa1 ratings. Approximately \$13,400,000 in new revenues will be needed in the next fiscal year to meet this new coverage ratio. That amount of increase is consistent with the 10-year financial forecasts that have been previously shared with both the City Council and the three rating agencies. Fee increases associated with system expansion are expected to provide \$2,000,000 in new revenues. This leaves \$11,400,000 to be raised through rate increases. A nine percent across the board increase in water and sewer rates and administrative fees has been proposed to increase utility revenues by this \$11,400,000.

**We recommend that the Council increase water utility revenues by increasing rates by at least \$11,400,000 in fiscal year 2011-2012 to provide the coverage ratios that are expected to be required by the ratings agencies in order to maintain the city's two AAA and one Aa1 rating and the city's access to lower cost capital.**

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<sup>1</sup> – {Total Revenue-[O&M Expenses – (Annual Debt Service + Pay Go)]}/Annual Debt Service

The WUTAT has reviewed the operating budget of the Public Utilities Department and has performed some preliminary benchmarking to compare operating costs. While staff indicates that some productivity gains are possible, they assert that on a total annual operating budget of \$153 million (FY11) it is not possible to produce significant savings to offset the need for a revenue increase. Moreover, staff has identified a number of programs, such as maintaining sewer easements and fire hydrant maintenance, where 19% of positions are unfilled for budget balancing purposes and maintenance is lagging behind. The WUTAT does not believe that additional cuts to the operating budget are feasible. Thus, the revenues will have to be raised through an increase in rates.

Any decision that results in a loss of the favorable bond ratings would not be considered prudent. As an example of the financial impact of rating downgrades, staff estimates that the costs of an approximate one notch downgrade to AA would have added as much as \$5,500,000 over 30 years to the financing cost associated with the last \$114,000,000 issue of bonds by the city. A rating downgrade would also impact the remarketing of other outstanding debt, increasing those costs as well.

In summary, the WUTAT believes that raising revenues by \$11,400,000 through some form of rate increase is justified. However, as discussed in the recommendation below, we believe there is a better alternative to the option of a nine percent across the board rate increase.

**We recommend that the Council achieve the revenue increase primarily by raising sewer administrative charges and rates as an alternative to an across the board increase in fiscal year 2011-2012.**

We asked the staff to develop an alternative to the across the board utility rate increase of nine percent shown during previous budget deliberations that would address some of the draft guiding principles and best water industry practices that we have discussed, including:

- The city should maintain access to low cost capital by meeting the coverage ratios that will likely be required by the ratings agencies;
- Water revenues should cover water operating, maintenance and capital expenses; wastewater revenues should cover wastewater operating, maintenance and capital expenses;



- The city should increase its percentage of its revenues from base charges to cover the high fixed costs of building, operating and maintaining the water utility compared to volumetric or variable charges;
- The city should adopt the Industry Best Practice of charging wastewater administrative fees based upon meter size just as the city has adopted water administrative fees based upon meter size (progressive base rate structure and the current practice of 54 NC utilities) to compliment its new tiered water rate structure;
- The city should be fair to customers who conserve water.

The staff and its consultant Raftelis prepared an alternative to increase sewer base charges and consumptive rates to raise enough revenue to maintain the city's current bond ratings. The attached schedule shows for various categories of customers the impact of the increase in base charges. The wastewater bill of the average residential customer who uses 6 CCF (600 cubic feet) or approximately 4500 gallons per month will increase by \$3.83/month or about 9.5 percent.

Collecting and treating wastewater is more expensive than treating and distributing drinking water. A rule of thumb in the water industry is that the ratio of water system costs compared to wastewater system costs is about 1.0:1.7 (meaning that for every \$1.00 of revenue from water sales the utility would need \$1.70 to cover the cost of operating the wastewater system). Increasing sewer base rates recognizes the higher costs of operating a wastewater system. It changes Raleigh's ratio of water to sewer from 1.0:0.85 to 1.0:1.0 for the average 6 CCF user. The WUTAT believes that the rate design should be adjusted over time to better match revenues with the cost of service. This adjustment is a step in attaining that goal.

Finally another drought has started in North Carolina. The Drought Management Advisory Council (DMAC) ([ncdrought.org](http://ncdrought.org)) predicts that the drought will intensify and persist from April – June. Increasing sewer base charges will provide more stable revenue to the water utility than increasing water rates during times of drought.

The WUTAT believes that increasing sewer base charges and consumptive rates as proposed in the attached schedule is preferable to increasing water rates, too.

We hope that the interim recommendations contained herein will assist the city in preparing its budget for the next fiscal year.

**Continuing areas of focus for the WUTAT:**

The WUTAT will continue to work on the broader scope of our charge. In particular, the City Council should expect the WUTAT to recommend policies associated with:

- Implementing watershed protection fees
- Building infrastructure replacement reserves and assurance that such reserves are used for their intended purpose
- Building operating reserves that may assist in low water consumption periods due to drought or that may provide financial resources if major unplanned facility expenses arise
- Providing funds to develop a reliable system map and to have a thorough material condition assessment in order to guide an accurate engineering estimate of pipeline, main and other facility replacement costs and timeframes
- Adopting and achieving best in class operating performance
- Developing an appropriate goal for conservation and the definition of a plan for achieving it.
- Evaluating current water conservation incentive programs as well as potential additional programs.
- Examining a Customer Assistance Program for low income utility customers affected by rising utility costs.

Thank you for your consideration. Please contact us if you have questions or need more information.

# V: RECOMMENDATIONS

## FINAL RECOMMENDATIONS

1. **The Council should create a permanent Water Utility Advisory Committee to advise the Council and the Public Utility Department.** Specific areas of focus for the Committee should include: long term planning for water services, financial sustainability of the utility enterprise, operational effectiveness, water efficiency and conservation and other matters. Further, the Council should direct the Water Utility Advisory Committee to review annually and to recommend adjustments to water rates and fees to maintain the financial health of the utility and the city. In addition, the Council should direct the Water Utility Advisory Committee to study the advantages and disadvantages of governance models appropriate for managing water utilities. The Council should appoint nine members with business, scientific, and policy expertise to staggered five year terms. The Committee should have representation from Raleigh citizens and merger community partners.
2. **The Council should conduct an annual workshop with the Water Utility Advisory Committee and the Public Utility Department.** The water utility is essential to the City's economic, environmental and financial health. It is the largest single component of the City's budget. Moreover, the water utility is becoming more complex and more dynamic. It touches in a major way each resident and business of Raleigh and its merger partners. Addressing population growth, aging infrastructure, water scarcity, storage options, land use change, climate change, and other challenges will require substantial future investment by the Council and strong public support. This workshop should include a review of the primary strategic, operational and financial plans of the water utility. The workshop should probably be a half-day in February or March (though the agenda should determine the time allotted to the workshop) to allow both the reporting of results from the previous year, an opportunity to discuss outside of the normal budgeting cycle, proposed rate adjustments for the upcoming year, and an opportunity to discuss the recommendations of the WUTAT and Water Utility Advisory Committee.

3. **The Council should direct the Public Utility Department in consultation with the Water Utility Advisory Committee to complete the preparation of a Strategic Plan by 2014.** The Strategic Plan should address the WUTAT's recommendations and include:

- A Sustainable Water Infrastructure Program that will incorporate elements of a complete material condition assessment, system mapping, development of infrastructure replacement criteria, infill policies that reduce costs, and a forecast of infrastructure replacement needs over a ten year period along with the requisite financial funding.
- A comprehensive water sources assessment and plan covering a minimum forecast period of fifty years, reflecting reasonable ranges for water consumption and demand, conservative criteria for assuring adequate supplies of water, criteria and policies for efficiency and conservation, potential loss of capacity from sedimentation or water pollution, potential uses of storm water and reuse water and requirements for additional water storage, including but not limited to protecting existing capacity, reallocation of existing reservoir capacity, off-line storage in quarries, new reservoirs and cooperation with other river basins. The plan should also identify options for water supply that are currently prohibited due to public policy or regulations and describe possible strategies for changing such policies or regulations. The plan should consult the work of the Basin Planning Unit within North Carolina Department of Environment and Natural Resources to consider up-stream and downstream impacts of proposed plan alternatives.
- Five and ten year goals for reduction of per capita water usage developed in collaboration with community stakeholders with such goals consistent with a balanced business model and planning criteria for future water resources and asset management needs. Just as the City has led by example in reducing its energy use the City should set an example by installing efficient fixtures and appliances in its buildings, phasing in the use of storm water and reclaimed water, and phasing out the use of drinking water for irrigating ball fields and landscapes.
- An update of the potential for utilization of reclaimed water (the previous study is dated and new information as well as possible public policy changes may impact options) that considers

distributed or decentralized technologies and the optimum situation for Raleigh and the individual merger communities.

- A Five Year Operating Budget and Financial Forecast that addresses the objectives of the Financial Planning and Policy Guiding Principles and that is to be presented to the Council annually in February in a workshop. Five year forecasts will provide the City, its merger partners and its customers more certainty and inform cost effective investments in water supply and efficiency.

4. **The Council should benchmark the Public Utilities Department against utilities of similar characteristics.** The benchmarking should cover these primary subjects: operational, financial and productivity factors, conservation and efficiency results and programs, utilization of by-products, compliance with standards of public health and water quality, standards for by-product quality and industry practice for partnership and collaboration. The benchmarks should be presented in the form of a gap analysis of what is required to be top quartile or best in class and include an evaluation of the costs/benefits of closing the “gaps”.
5. **The Council should seek legal assistance in determining how to protect infrastructure replacement reserve funds, revenue stability reserve funds, and other designated reserves funds so that they are only expended for their proscribed and intended uses.**
6. **The Council should direct the Water Utility Advisory Committee to work with the Public Utility Department to create a cost curve and template to analyze the costs, benefits, risks and rewards of policy or investment proposals.** Examples of areas which should be subject to review with this tool include: “new” water sources to evaluate new and existing water conservation and efficiency programs, new water storage projects, new reclaimed water systems, and new storm water capture and reuse projects.
7. **The Council should extend the Environmental Management System (EMS) framework to those departmental programs that are responsible for Public Health, Water Quality, Water Reclamation and future products, not herein envisioned and should maintain National**

## **Biosolids Partnership status for biosolids management.**

- 8. The Council should direct the Public Utility Department to conduct a comprehensive water audit consistent with AWWA standards on in 2012.** The audit should be updated periodically and its conclusions should be reported to the Commission and to the Council. The update should be consistent with the Quinquennial Local Water Supply Plan required by North Carolina General Statutes.
- 9. The Council should ensure that all decisions and the practices of the Public Utilities Department have symmetrical equity between and among the city and its merger partners.**
- 10. The Council should direct the Manager, PUD, its merger partners, and the storm water utility in the Public Works Department to develop and fund a strategic communications plan to support public education.** Specific subjects to be covered by this communications plan should include: the value of water, the value of the water services provided by the drinking water, wastewater and storm water utilities, the difference between water conservation and efficiency, and the size and scope of future water infrastructure needs. The plan should consistently and frequently stress the importance of water efficiency and highlight the PUD's incentive programs, which help maintain affordable water bills for customers. The City should seek the assistance of professional communications and media consultants. It is also recommended that this plan be implemented with the assistance of an outside media consultant which will provide guidance to effectively expend marketing funds.
- 11. The Council should direct PUD to continue to provide technical and financial assistance by supporting its existing water efficiency and conservation programs.** PUD should expand the current online technical information and develop additional educational literature offerings. Onsite residential water audits should continue to be offered either as a methodology for self-conducted audits, as a service as staffing and time constraints allow, and a program to train water audit volunteers should be established. The PUD should also actively seek partnerships with local energy utilities such as PSNC and Progress Energy to combine energy and water audits and incentives. The proposed partnerships should emphasize the connection between energy and

water consumption. The PUD should consider providing energy utility auditors and staff with water efficiency training and water efficient water fixtures to distribute to PUD customers.

12. **The Council should review the work completed by AmeriCorps staff for PUD and establish a program to provide financial assistance to low income customers.** AmeriCorps staff found that a financial assistance program could be developed so as to work synergistically with existing local programs. The program should also encourage the replacement of inefficient water fixtures through the PUD's current incentives and rebate programs through a direct delivery system.
13. **The Council and the merger partners should, within the next several years, conduct a comprehensive assessment of alternative water utility governance models.** As a precedent to the conduct of this study, the recommendations presented above should be addressed; doing so will provide valuable information to inform the study. Specifically, material condition assessments, asset management plans, the strategic plan, reserve protection option awareness, and regional water management solutions/options will aid in determining the pros and cons of various alternatives. Governance options to be assessed should address a continuum of options such as: remaining as is, a water authority, and public private partnerships.

## **TWO RECOMMENDATIONS PENDING**

### **1. REUSE SYSTEM EXPANSION**

On June 14, 2011, as part of the larger City budget deliberations, the Raleigh City Council charged the WUTAT with evaluating the City's reclaimed water program. The WUTAT received a presentation from PUD staff of the current reclaimed water master plan and, in particular, with regard to an extension of the system to the Centennial Campus and to other nearby areas (Phase 1 Segment 4). The city has a contract in place with NCSU to make this extension.

Much has changed since the original analysis supporting the extension of the reclaimed water system was conducted in 2007. Specific significant issues include: 1) consumption of reclaimed water has been lower than predicted, 2) water rates for water customers have increased, 3) construction costs have increased, and 4) the costs of distributed reclaimed water technologies have decreased.

The prudence of a major investment in a reclaimed water system deserves careful review. The WUTAT therefore recommends that the reuse master plan be reviewed and updated in light of new usage patterns, new cost estimates, new technologies, and other options for the utilization of reclaimed water.

Further, the WUTAT recommends that the PUD explore with the city's legal counsel the obligation, options and remedies associated with the current contract with NCSU should the City choose not to construct Phase 1 Segment 4. Additionally, the WUTAT recommends that the PUD update the cost/benefit analysis associated with Phase 1 Segment 4 and the results of the cost/benefit analysis and contractual analysis be presented to WUTAT for consideration.

WUTAT cannot support the construction of Phase 1 Segment 4 prior to an update of the cost/benefit analysis. The WUTAT would expect the PUD to consider alternative pricing scenarios if the contract must be honored.

## **2. PUBLIC UTILITIES AND STORMWATER MERGER**

Through statements in two Public Works Committee meetings, City Council members requested the following issue to be reviewed by the WUTAT:

### **Item #09-29 – Public Utilities Organizational Study**

#### **WATER/STORMWATER MERGER**

“CM: What are the advantages of combining storm water management with the Public Utilities Department? Disadvantages?”



**Item #07-68 – Storm water and Public Utilities Systems – Possible Merger.** Mr. “Stephenson reviewed the item briefly stating the item has been referred to the Water Utility Transition Advisory Task Force.

Following brief discussion, Mr. Odom made a motion to refer the item out with no action taken as the item was referred to WUTAT. His motion was seconded by Mr. Weeks and put to a vote and passed unanimously. Mr. Stephenson ruled the motion adopted.”

However, given that a professional consultant has been selected to evaluate this possible merger, and the necessary data has not been collected at this time, the WUTAT shall defer any recommendations on this issue until this study has been completed.

## **VI: INDIVIDUAL WUTAT MEMBER COMMENTS**

There are no individual WUTAT member comments. The entire WUTAT endorses this report without exception or disagreement.

## APPENDIX A: LISTING OF CITY STAFF AND CONSULTANT PARTICIPANTS STAFF –

1. **Jennifer Alford:** *Administration Division Superintendent*
2. **Cinnamon Black:** *Water Conservation Specialist*
3. **Danny Bowden:** *Storm Water Utility Division Head*
4. **Aaron Brower:** *Capital Projects Superintendent*
5. **Ed Buchan** *Environmental Coordinator - Water*
6. **John Carman:** *Public Utilities Director*
7. **Marla Dalton:** *Environmental Coordinator - Reuse*
8. **Carolyn Dumas:** *Public Utilities Public Information Manager*
9. **Donna Jackson:** *Assistant Public Utilities Director (retired)*
10. **Perry James** *Chief Financial Officer*
11. **TJ Lynch** *Assistant Public Utilities Director*
12. **Robert Massengill:** *Assistant Public Utilities Director*
13. **Kenny Waldroup** *Assistant Public Utilities Director*
14. **Marva Watkins** *Administrative Assistant*
15. **Whit Wheeler:** *Assistant Public Utilities Director*
16. **Tim Woody:** *Waste Water Division Superintendent*

### CONSULTANTS –

- Hazen & Sawyer:** *Engineering consultants*
- Raftellis:** *Financial consultants*



## **APPENDIX B: SLIDE PRESENTATION APRIL 2011**

**Interim Report of the  
City of Raleigh  
Water Utility Transition Advisory Taskforce  
(WUTAT)**

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Presented: April 19, 2011



## WUTAT Mission

- Raleigh City Council action June, 2010
- Provide guidance during the transition from uniform water rates to the tiered water rate system

Slide 2

## WUTAT Direction

- Provide recommendations regarding
  - Establishing utility rates sufficient to cover the full cost of operation, maintenance, environmental compliance, conservation education and incentive programs, and infrastructure replacement
  - Establishing additional conservation education and incentive programs
  - Establishing a low income customer assistance program
  - Combining the stormwater program with Public Utilities Department

Slide 3

## WUTAT Interim Report

- WUTAT Findings
- WUTAT Principles
- Interim recommendations in anticipation of FY12 budget preparation

Slide 4

## WUTAT Findings

- Professional staff
- Scale of assets
- Complexity and importance of enterprise to City, merger communities, economy, environment

Slide 5



## WUTAT Principles

- Maintain access to low cost capital and maintain bond ratings
- Water revenues for water expenses; wastewater revenues for wastewater expenses
- Increase percentage of fixed costs covered by base fees
- Adopt the Industry Best Practice of charging wastewater administrative fees based upon meter size
- Fairness to water conservers

Slide 6

## WUTAT Interim Recommendations Rationale

- Maintenance of bond rating will require approximately \$13,400,000 in new revenue FY12
- Past rate models have indicated the need for a 9% rate increase in FY12 to maintain bond rating
- \$13,400,000 new revenue =  
\$2,000,000 fee incr. + \$11,400,000 rate incr.
- \$11,400,000 rate incr. = approximately 9%

Slide 7

## WUTAT Interim Recommendation #1

- Increase utility rate-related revenue by \$11,400,000 in FY12 in order to maintain the City's access to lower cost capital
  - Potential productivity gains will not offset the need for revenue increase
  - Further cuts to operating budget are not feasible
  - Accepting a decrease in bond rating is not prudent

Slide 8

## WUTAT Interim Recommendation #2

- Achieve a net 9% rate increase by raising sewer administrative charges and rates in lieu of a 9% across the board increase in rates
  - Improves water to sewer ratio from 1.0:0.85 to 1.0:1.0
  - Increase in base fees provides more stable revenue than volumetric fees
  - Large users pay more commensurate portion of ability-to-serve

Slide 9

	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2012</u>
	<i>Current</i>	<i>9% Across-the-Board</i>	<i>Sewer Only Increase</i>
<b>Raleigh - Garner Inside City Water User Charges</b>			
Monthly Service Charge			
5/8" Meter	\$ 5.24	\$ 5.71	\$ 5.24
3/4" Meter	5.90	6.43	5.90
1" Meter	7.19	7.84	7.19
1 1/2" Meter	10.43	11.37	10.43
2" Meter	14.36	15.65	14.36
3" Meter	24.78	27.02	24.78
4" Meter	36.53	39.82	36.53
6" Meter	66.17	72.13	66.17
8" Meter	108.16	117.89	108.16
10" Meter	153.75	167.59	153.75
Volume Rates			
Non-Residential	\$ 2.95	\$ 3.22	\$ 2.95
Residential			
Tier 1 0 to 4 ccf	\$ 2.28	\$ 2.49	\$ 2.28
Tier 2 4 to 10 ccf	3.80	4.14	3.80
Tier 3 10+ ccf	5.07	5.53	5.07
<b>Raleigh - Garner Inside City Sewer User Charges</b>			
Monthly Service Charge			
5/8" Meter	\$ 4.16	\$ 4.53	\$ 5.05
3/4" Meter	4.16	4.53	5.66
1" Meter	4.16	4.53	6.89
1 1/2" Meter	4.16	4.53	9.94
2" Meter	4.16	4.53	13.61
3" Meter	4.16	4.53	23.39
4" Meter	4.16	4.53	34.39
6" Meter	4.16	4.53	64.96
8" Meter	4.16	4.53	101.63
10" Meter	4.16	4.53	144.42
Volume Rates			
Non-Residential	\$ 2.42	\$ 2.64	\$ 2.91
Residential	2.42	2.64	2.91
<b>Typical Residential Customer Bill</b>			
6 ccf per month (5/8" meter)	\$ 40.64	\$ 44.32	\$ 44.47
\$ Increase		\$ 3.68	\$ 3.83

## FY2012 Utility Rate Scenarios

Slide 10

## WUTAT Future Focus

- Watershed protection fees
- Reserve funds
  - Infrastructure replacement
  - Drought
  - Major unplanned capital expense
- Increase planning for asset replacement
- Conservation goal and planning
- Utility affordability

Slide 11

